CIVIL AIR PATROL
National Headquarters
Maxwell AFB AL 36112-6332

CAP MANUAL 50-18

1 March 1996

Training

CADET PHYSICAL FITNESS TEST MANUAL

This regulation offers guidance and prescribes procedures for developing unit physical fitness training programs and conducting the cadet physical fitness tests. Supplements to test procedures are not authorized. It is the responsibility of CAP commanders at each echelon to support the cadet physical fitness program in accordance with the directives of this regulation.

OPR: CPC
Distribution: In accordance with CAPR 5-4.

Chapter 1

INTRODUCTION

1. General.

a. A cadet's level of physical fitness has direct impact on his/her ability to meet all aspects of the cadet program. The many activities and missions of CAP that may involve cadets emphasize the importance physical fitness plays. The renewed interest in fitness has been accompanied by many research studies on the effects of regular participation in physical fitness programs. The overwhelming conclusion is that these programs enhance a person's quality of life. Not only are physically fit cadets essential to CAP, they are more likely to have enjoyable, productive lives. Therefore, the National Cadet Advisory Council and the National Cadet Programs Committee proposed a multifaceted fitness program for cadets. The National Board adopted this agenda item in August 1995, with an implementation date of 1 March 1996.

b. Fitness testing, the emphasis of this manual, is but one component of total fitness. Some others include weight control, diet and nutrition, as well as the avoidance of substance abuse and tobacco use.

2. Leadership Responsibilities.

a. Effective leadership is critical to the success of the Cadet Physical Fitness Test (CPFT) found in Chapter 3. Leaders, especially senior members and senior cadets, must understand and practice the fitness requirements. They must emphasize the value of physical training and clearly explain the objectives and benefits of the program. Their leadership is critical to teach the correct procedures for conducting and participating in these tests. The fitness program will only be as good as the leaders who run it.

b. Leaders must recognize those individuals who struggle with one or all of the tests and assist them in attaining the standard. The application of sound leadership techniques is especially important in bringing physically deficient cadets up to the standard.

3. Command Functions.

a. Commanders must evaluate the effectiveness of physical fitness training and ensure that it is focused on squadron and individual goals. They can evaluate its effectiveness by participating in and observing training, the squadron, and individual CPFT performance.

b. Commanders must provide regular time on the training calendar for fitness training that is more than just giving the CPFT. Plan entire meetings around physical training that assists cadets in improving their technique and individual performance. Add games or activities that promote exercise and fun into the process. Be sure everyone participates, since all individuals, regardless of rank or gender, benefit from regular exercise. In some instances, leaders need to make special efforts to overcome recurring problems which interfere with regular training.

c. To foster a positive attitude, squadron leaders and instructors must be knowledgeable, understanding, and fair, but demanding. They must recognize individual differences and motivate cadets to put forth their best efforts. However, they must also emphasize training to meet proper technique. Attaining a high level of physical fitness cannot be done simply by going through the motions. Hard training is essential.

d. Commanders must ensure that leaders are familiar with approved techniques, directives, and this publication, and that they use them. The objective of every commander should be to incorporate the most effective methods of physical training into a balanced program. This program should result in the improved physical fitness of their cadets and an enhanced ability to perform mission-related tasks.

4. Components of Fitness

a. Physical fitness is the ability to function effectively in physical work, training, and other activities, and still have enough energy left over to handle any emergencies which may arise.

b. The components of physical fitness are as follows:

- **Cardiorespiratory Endurance (CR):** The efficiency with which the body delivers oxygen and nutrients needed for muscular activity and transports waste products from the cells.
- **Muscular Strength:** The greatest amount of force a muscle or muscle group can exert in a single effort.
- **Muscular Endurance:** The ability of a muscle group to perform repeated movements with sub-maximal force for extended periods of time.
- **Flexibility:** The ability to move the joints (for example, elbow, knee) or any group of joints through an entire, normal range of motion.
- **Body Composition:** The amount of body fat a cadet has in comparison to his total body mass.

c. Improving the first three components of fitness listed above will have a positive impact on body composition and will result in less fat. Excessive body fat detracts from the other fitness components, reduces performance, detracts from appearance, and negatively affects one's health.

d. Factors such as speed, agility, muscle power, eye-hand coordination, and eye-foot coordination are classified as components of "motor" fitness. These factors affect a cadet's ability to perform during missions. Appropriate training can improve these factors within the limit of each cadet's potential.

5. Principles of Exercise.

Adherence to certain basic exercise principles is important for developing an effective program. The principles of exercise apply to everyone at all levels of physical training, from the Olympic-caliber athlete to the weekend jogger. These basic principles of exercise must be followed:

- **Regularity:** To achieve a training effect, a person must exercise. One should strive to exercise each of the first four fitness components at least three times per week. Infrequent exercise can do more harm than good. Regularity is also important in resting, sleeping, and following a good diet.
- **Progression:** The intensity (how hard) and/or duration (how long) of exercise must gradually increase to improve the level of fitness.
- **Balance:** To be effective, a program should include activities that address all the fitness components, since overemphasizing any one of them may hurt the others.
- **Variety:** Providing a variety of activities reduces boredom and increases motivation and progress.
- **Specificity:** Training must be geared toward specific goals. For example, cadets become better runners if their training emphasizes running. Although swimming is a great exercise, it does not improve the 1-mile run time as much as a running program does.
- **Recovery:** A hard day of training for a given component of fitness should be followed by an easier training day or rest day for that component and/or muscle group(s) to help permit recovery. Another way to allow recovery is to alternate the muscle groups exercised every other day, especially when training for strength and/or muscle endurance.
- **Overload:** The workload of each exercise session must exceed the normal demands placed on the body in order to bring about a training effect.

6. Frequency, Intensity, Time, and Type Factors. Certain factors must be part of any fitness training program for it to be successful. These factors are: frequency, intensity, time, and type (FITT). The acronym FITT makes it easier to remember (see Figure 1).

	Cardiorespiratory Endurance	Muscular Strength	Muscular Endurance	Muscular Strength and Muscular Endurance	Flexibility
F	**Frequency** 3-5 times/week	3 times/week	3-5 times/week	3 times/week	**Warm-up and Cool-down** Stretch before and after each exercise session. **Developmental Stretching** To improve flexibility, stretch 2-3 times/week.
I	**Intensity** 60-90% HRR*	3-7 RM**	12+ RM	8-12 RM	Tension and slight discomfort; NOT PAIN
T	**Time** 20 minutes or more	The time required to do 3-7 repetitions of each exercise	The time required to do 12+ repetitions of each exercise	The time required to do 8-12 repetitions of each exercise	**Warm-up and Cool-down Stretches** 10-15 seconds/stretch **Developmental Stretches** 30-60 seconds/stretch
T	**Type** Running Swimming Cross-country Skiing Rowing Bicycling Jumping Rope Walking/Hiking Stair Climbing	Free Weights Resistance Machines Partner-resisted Exercises Body-weight Exercises (Pushups/Sit-ups/Pull-ups/Dips, etc.)			**Stretching** Static Passive P.N.F.

* HRR = Heart Rate Reserve
** RM = Repetition Maximum

Figure 1

a. Frequency.

CAPM 50-16 specifies that physical fitness training take place five days per week under the old point system. Cadets should strive for at least three exercise sessions for CR fitness, muscle endurance, muscle strength, and flexibility each week to improve fitness levels.

b. Intensity. Training at the right intensity is the biggest problem in unit programs. The intensity should vary with the type of exercise being done. Exercise for CR development must be strenuous enough to elevate the heart rate to 60% and 90% of the heart rate reserve (HRR).

(1) The example below shows how to calculate the training heart rate (THR) by using the resting heart rate (RHR) and the cadet's age to estimate the heart rate reserve (HRR). A 16-year-old male cadet in reasonably good physical shape is used to calculate the example.

- **Step 1:** Determine the maximum heart rate (MHR) by subtracting the cadet's age from 220.

FORMULA
220 - age = MHR
(GIVEN)

CALCULATION
220 - 16 = 204

- **Step 2:** Determine the RHR in the beats per minute (BPM) by counting the rest pulse for 30 seconds, and multiply by 2. A shorter period can be used, but a 30-second count is more accurate. This count should be taken while the cadet is completely relaxed and rested. How to determine the heart rate is described below. Next, determine the heart rate reserve (HHR) by subtracting the RMR from the estimated MHR. If the cadet's RHR is 69 BPM, the HRR is calculated as shown here.

FORMULA
MHR - RHR = HRR

CALCULATION
204 BPM - 69 BPM = 135

- **Step 3:** Calculate the training heart rate (THR) based on 70% of HRR (a percentage based on a good level of CR fitness).

FORMULA
(% x HRR) + RHR = THR

CALCULATION
(0.70 x 135 BPM) + 69 BPM = 163.5

(2) Those with low fitness levels should start exercising at a lower training heart rate (THR) of about 60% of HRR.

(3) For muscular strength and endurance, intensity refers to the percentage of the maximum resistance that is used for a given exercise. When determining intensity in a strength-training program, it is easier to refer to a "repetition maximum" or "RM." For example, a 10-RM is the maximum weight that can be correctly lifted 10 times. An 8-12 RM is the weight that can be lifted 8 to 12 times correctly. Doing an exercise "correctly" means moving the weight steadily and with the proper form, without getting help from other muscle groups by jerking, bending, or twisting the body. For the average person who wants to improve both muscular strength and endurance, an 8-12 RM is best.

(4) All exercise sessions should include stretching during the warm-up and cool-down. One should stretch so you can feel extension or stretching sensation, but no pain, when the movement is taken beyond the normal range of motion.

c. Time. Like intensity, the time spent exercising depends on the type of exercise being done. At least 20 to 30 continuous minutes of aerobic exercise must be used in order to improve cardiorespiratory endurance.

(1) For muscular endurance and strength, exercise times equate to the number of repetitions done. For the average cadet, 8 to 12 repetitions with enough resistance to cause muscle fatigue improves both muscular endurance and strength. As cadets progress, they will make better strength gains by doing two or three sets of each resistance exercise.

(2) Flexibility exercises or stretche positions should be held for varying times depending on the objective of the session. For warming-up, such as before a run, each stretch should be held for 10 to 15 seconds. To improve flexibility, it is best to do stretching during the cool-down, with each stretch held for 30 to 60 seconds. If flexibility improvement is a major goal, at least one session per week should be devoted to developing it.

d. Type.

(1) Type refers to the kind of exercise performed. When choosing the type, one should consider the principle of specificity. For example, to improve CR fitness (the major component in the 1-mile run), one must do CR type of exercises.

(2) The basic rule is that to improve performance, one must practice the particular exercise, activity, or skill the cadet wants to improve. For example, to be good at sit-ups, one must do sit-ups. No other exercise will improve sit-up performance effectively.

7. Warm-up and Cool-down.

a. One must prepare the body before taking part in organized activity, sports competition, or vigorous physical activity. A warm-up may help prevent injuries and maximize performance. The warm-up increases the body's internal temperature and the heart rate. The chance of getting injured decreases when the heart, muscles, ligaments, and tendons are properly prepared for exertion. A warm-up should include some running-in-

place or slow jogging, stretching, and calisthenics. It should last five to seven minutes and should occur just before CR or muscular endurance and strength part of the workout. After a proper warm-up, cadets are ready for a more intense conditioning activity. Cadets should cool down properly after each exercise period, regardless of the type of workout. The cool down serves to gradually slow the heart rate and helps prevent the pooling of blood in the legs and feet. During exercise, the muscles squeeze blood through the veins. This helps return the blood to the heart. After exercise, however, the muscles relax and no longer do this, and the blood can accumulate in the legs and feet. A good cool-down will help avoid this possibility.

b. Cadets should walk and stretch until their heart rates return to less than 100 beats per minute (BPM) and heavy sweating stops. This usually happens five to seven minutes after the conditioning session.

8. Phases of Fitness Conditioning. The physical fitness training program is divided into three phases: preparatory, conditioning, and maintenance. The starting phases for individuals vary depending on their age, fitness levels, and previous physical activity. Young, healthy persons may be able to start with the conditioning phase, while those who have been exercising regularly may already be in the maintenance phase. Most squadrons will have cadets in all three phases of training at the same time.

a. Preparatory Phase.

(1) The preparatory phase helps both the cardiorespiratory and muscular systems get used to exercise, preparing the body to handle the conditioning phase. The workload in the beginning must be moderate. Progression from a lower to higher level of fitness should be achieved by gradual, planned increases in frequency, intensity, and time.

(2) Initially, poorly conditioned cadets should run, or walk if need be, three times a week at a comfortable pace that elevates their heart rate to about 60% HHR for 1 to 15 minutes. Recovery days should be evenly distributed throughout the week, and training should progress slowly. Cadets should continue at this or an appropriate level until they have no undue fatigue or muscle soreness the day following exercise. They should lengthen their exercise session to 16 to 20 minutes and/or elevate their heart rate to about 70% HHR by increasing their pace. To be sure their pace is faster, they should run a known distance and try to cover it in less time. Those who feel breathless or whose heart rate rises beyond their training heart rate (THR) while running, should resume walking until their heart rate returns to the correct training level. When they can handle an intensity of 70% HRR for 20 to 25 minutes, they should be ready for the next phase.

b. Conditioning Phase.

(1) To reach the desired level of fitness, cadets must increase the amount of exercise and/or the workout intensity as their strength and/or endurance increases.

(2) To improve cardiorespiratory endurance, for example, they must increase the length of time they run. They should start with the preparatory phase and gradually increase the running time by one or two minutes each week until they can run continuously for 20 to 30 minutes. At this point, they can increase the intensity until they reach the desired level of fitness. They should train at least three times a week and take no more than two days between workouts.

c. Maintenance Phase.

(1) The maintenance phase sustains the high level of fitness in the conditioning phase. The emphasis here is no longer on progression. A well designed, 45 to 60 minute workout (including warm-up and cool-down) at the right intensity three times per week is enough to maintain almost any appropriate level of physical fitness. These workouts give the cadets time to stabilize their flexibility, CR endurance, and muscular endurance and strength.

(2) Cadets should always be encouraged to progress beyond minimum requirements. As one progresses in the cadet program, the fitness levels rise for each and every promotion. Therefore, cadets must prepare and strive to achieve the maximum score possible to determine their strengths and weaknesses. Maintaining an optimal level of fitness should become part of every cadet's life-style and should be continued throughout life.

9. Types of Fitness Programs.

a. Unit Programs.

(1) Squadron programs must support the unit mission of preparing cadets to pass the CPFT. Leaders must understand the physiological differences between the sexes.

(2) The squadron should use ability groups to ensure all personnel are challenged at their own level. The local fitness program should be more than just doing the CPFT and returning to the classroom. PT night could be an entire meeting where the cadets get educated on proper warm-up techniques and stretches. It could include games that promote improved fitness, but more so to develop camaraderie and teamwork within the squadron.

b. CPFT Failures.

(1) Although it is not designed to be the heart of the cadet physical fitness program, the CPFT is the primary instrument for evaluating the fitness level of each cadet. It is structured to assess flexibility, the muscular endurance of specific muscle groups, and the functional capacity of the CR system.

(2) Cadets with reasonable levels of overall physical fitness should easily pass the CPFT. Those whose fitness levels are substandard will fail. Cadets who fail the CPFT must receive special attention. Leaders should analyze their weaknesses and design programs to overcome them. Emphasis given to the squadron fitness program will prepare cadets for the need to prepare for the CPFT.

c. Fitness Categories. The physical fitness category level of cadets is significant when it comes to increasing

fitness levels and taking the CPFT. Leaders must be aware of the limitations some cadets have and how it affects their performance. While we want to get the most from our cadets, remember that their safety is first and foremost.

(1) Category I - Unrestricted. A cadet in this category is determined to be in good health and may participate in the physical fitness program without restriction.

(2) Category II - Temporarily Restricted. A cadet in this category is determined by the squadron commander to be temporarily restricted from parts or all of the CPFT due to a condition or injury of a temporary nature. Temporary conditions include broken bones, post-operative recovery, obesity, and illness. Cadets normally will not exceed six months in this category without reevaluation. In Category II, cadets may be credited with completion of Achievements 1-6, 8-10, and 12-14 to permit progression within their particular phase of the cadet program. However, cadets in Category II will not be tested for Achievements 7, 11, 15, or administered the Spaatz examination until they return to Category I or are determined by a doctor to meet Category III conditions listed below.

(3) Category III - Extended Restrictions. A cadet in Category III is determined to be indefinitely or permanently restricted from participation in the physical fitness program due to a medical condition or injury of a permanent nature as certified by a physician. A cadet placed in Category III will attach a certification of the medical limitation from a physician with an endorsement from the squadron commander to the CAPF 59-1, 59-2, 59-3, or Spaatz examination when submitted to National Headquarters.

10. Evaluation.

To evaluate their physical fitness and the effectiveness of their physical fitness training programs, all cadets are tested for each achievement using the CPFT in accordance with CAPM 50-18. All cadets must attain a minimum combined score as designated by the achievement as noted in Chapter 3.

11. Safety.

a. Safety is a major consideration when planning and evaluating physical fitness training programs. Commanders must ensure that the programs do not place their cadets at undue risk of injury or accident. They should address the following items:

- Environmental conditions (heat/cold/ traction)
- Cadet's level of conditioning (low/high/age/ sex)
- Facilities (availability/instruction/repair)
- Traffic (routes/procedures/formations)
- Emergency procedures (medical/communication/ transport)

b. The objective of physical training in the CAP is to enhance cadet's abilities to meet the physical demands of the cadet program. Any physical training which results in numerous injuries or accidents is detrimental to that goal. As in most training, common sense must prevail. Good, sound physical training should challenge cadets, but should not place them at undue risk nor lead to situations where accidents or injuries are likely to occur.

Chapter 2

FLEXIBILITY

1. General. Flexibility is a component of physical fitness. Developing and maintaining it is an important part of a fitness program. Good flexibility can help a cadet accomplish such physical tasks as lifting, loading, climbing, running, and rappelling with less risk of injury.

a. Flexibility is the range of movement of a joint or series of joints and their associated muscles. It involves the ability to move a part of the body through the full range of motion allowed by normal, disease-free joints.

b. Stretching during the warm-up and cool-down helps cadets maintain overall flexibility. Stretching should not be painful, but you should "feel the extension" because the muscles are being stretched beyond their normal length. Because people differ somewhat anatomically, comparing one person's flexibility with another's should not be done. People with poor flexibility who try to stretch as far as others may injure themselves.

2. Stretching Techniques.

a. Static stretching involves the gradual lengthening of muscles and tendons as a body part moves around a joint. It is a safe and effective method for improving flexibility. The cadet assumes each stretching position slowly until he feels tension or tightness. This lengthens the muscles without causing a reflex contraction in the stretched muscles. He/she should hold each stretch for 10 seconds or longer. This lets the lengthened muscles adjust to the stretch without causing injury.

b. The longer the stretch is held, the easier it is for the muscle to adapt to that length. Static stretching should not be painful. The cadet should feel extension, but no pain. When pain results from stretching, it is a signal that he/she is stretching a muscle or tendon too much and may be causing damage.

c. Ballistic, or dynamic, stretching involves movements such as bouncing or bobbing to attain greater range of motion and stretch. Although this method may improve flexibility, it often forces a muscle to stretch too far and may result in an injury. Individuals and squadrons should not use ballistic stretching.

3. Preparing for the CPFT or PT. Commanders should ensure stretching exercises are conducted prior to all physical training and before the CPFT and upon completion of all exercises.

4. The Warm-up. Before beginning any vigorous physical activity, one should prepare the body for exercise. The warm-up increases the flow of blood to muscles and the tendons, thus helping reduce the risk of injury. It also increases the joint's range of motion and positively affects the speed of the muscular contraction.

a. A recommended sequence of warm-up activities follows. Cadets should do these for five to seven minutes before vigorous exercise.

♦ Slow jogging-in-place or walking for one or two minutes gradually causes an increase in the heart rate, blood pressure, circulation and increases the temperature of the active muscles.

♦ Slow joint-rotation exercises gradually increase the joint's range of motion. Work each major joint for 5 to 10 seconds.

♦ Slow static stretching of the muscles is to be used during the upcoming activity.

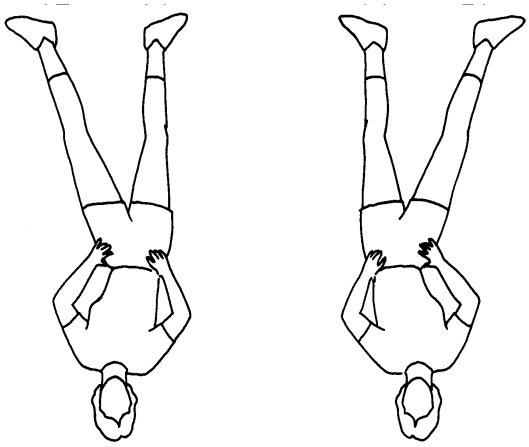
b. This will "loosen up" muscles and tendons so they can achieve greater ranges of motion with less risk of injury. Hold each stretch position for 10 to 15 seconds, and do not bounce or bob.

5. The Cool down. The cool-down helps the cadet taper off gradually before stopping completely. The following explains the importance of cool-down and how to do it correctly.

- Do not stop suddenly after vigorous exercise as this can be very dangerous. Gradually, bring the body back to its resting state by slowly decreasing the intensity of the activity. After running, for example, one should walk until heart rate is lowered to 100 BPM (305 minutes). Stopping suddenly can cause the blood to pool in the muscles, thereby reducing blood flow to the heart and brain. This may cause fainting or abnormal rhythms in the heart which could lead to serious complications.
- Repeat the stretches done in the warm-up to help ease muscle tension and any immediate feeling of muscle soreness. Be careful not to over stretch. The muscles are warm from activity and can possibly be over stretched to the point of injury.
- Hold stretches for 30 seconds or more during the cool-down to improve flexibility.

6. Rotation Exercises. Rotation exercises are used to gently stretch the tendons, ligaments, and muscles associated with a joint and to stimulate lubrication of the joint with synovial fluid. This may provide better movement and less friction in the joint. The following exercises should be performed slowly.

HIPS



Position: Stand with the back straight and feet should be shoulder width apart. Place hands on hips.

Action: Rotate the hips clockwise while keeping the back straight. Repeat the action in a counterclockwise direction. Do this three times in each direction.

KNEES AND ANKLES

Position: Stand with feet together and bend at the waist with the knees slightly bent.

Action: Place the hands above the knees and rotate the legs in a clockwise direction. Repeat the action in a counterclockwise direction. Do this three times in each direction.

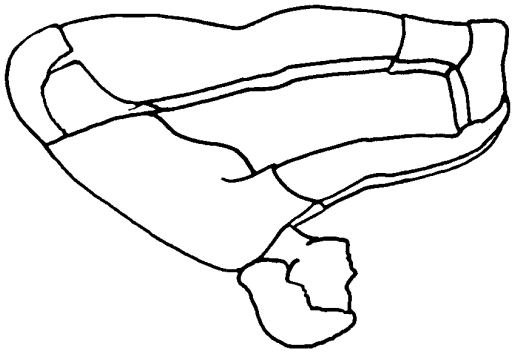
7. Static Stretches. Assume all stretching positions slowly until you feel tension of slight discomfort. Hold each position for at least 10 to 15 seconds during the warm-up and cool-down. Developmental stretching to improve flexibility requires holding each stretch for 30 seconds or longer.

THIGH STRETCH
This stretches the quadriceps and anterior tibias.

Position: Stand. (For variation, lie on stomach.)

Action: Bend the left leg forward toward the buttocks. Grasp the toes of the left foot with the right hand and pull the heel to the left buttock. Extend the left arm to the side for balance. Hold this position for 10 to 15 seconds. Return to the starting position. Bend the right leg, grasp the toes of the right foot with the left hand and pull the heel to the right buttock. Extend the right arm for balance. Hold this position for 10 to 15 seconds. Return to starting position.

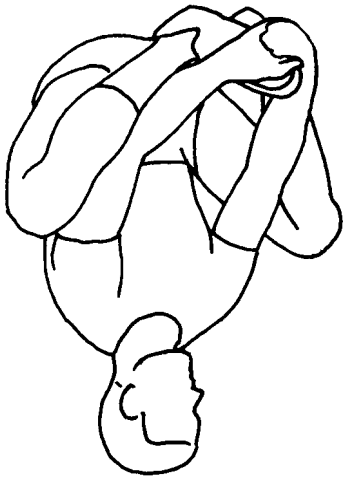
HAMSTRING STRETCH (SEATED)
This stretches the hamstrings, erector spinae, gluteal muscles, and calf muscles.



Position: Sit on the ground with both legs straight ahead and extended forward with the feet upright, about six inches apart. Put the hands on the ankles or toes.

Action: Bend from the hips, keeping the back and head in a comfortable, straight line. Hold this position for 10 to 15 seconds. (Variation for greater stretch: stretch and pull back on the toes.)

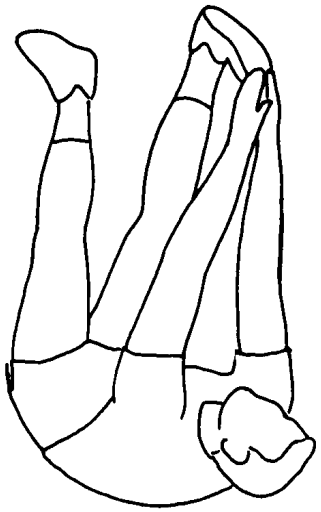
GROIN STRETCH (SEATED)
This stretches the hip abductor and erector spinae muscles.



Position: Sit on the ground with the soles together. Place the hands on or near the feet.

Action: Bend forward from the hips, keeping the head up. Hold this position for 10 to 15 seconds.

CALF STRETCH (VARIATION: TOE PULL)
This stretches the calf muscles and to a lesser extend the hamstrings, gluteus maximus, and erector spinae muscles.



Position: Stand with the feet shoulder width apart and the left foot slightly forward.

Action: Bend forward at the waist. Slightly bend the right knew and fully extend the left leg. Reach down and pull the toes of the left foot forward toward the shin. Hold this position for 10 to 15 seconds. Return to the starting position. In a similar manner, pull the toes of the right foot toward the right shin and hold for 10 to 15 seconds.

8. Conclusion. Stretching is essential to maintain and improve a person's flexibility. Each time you test on the CPFT, you must demonstrate more flexibility with each promotion. The stretches in this chapter should help you improve your performance on the CPFT and any athletic endeavor.

Chapter 3

CADET PHYSICAL FITNESS TEST

1. General. All cadets in CAP in Category I must take the Cadet Physical Fitness Test (CPFT). The CPFT is a 3-event physical performance test used to assess muscular endurance and cardiorespiratory (CR) fitness. It is a simple way to measure a cadet's ability to effectively move his body by using his major muscle groups and CR system. Performance on the CPFT is strongly linked to the cadet's fitness level and his/her ability to do fitness-related tasks. A CPFT with the alternative swim test for the mile run is authorized for anyone.

a. Overview.

(1) As stated, the CPFT events assess muscular endurance and CR fitness. The lowest passing CPFT standard reflects the minimum acceptable fitness level for all cadets at a given rank. When applied to a squadron, CPFT results show a unit's overall level of physical fitness. Individual cadets must set higher goals for each test as the minimum score increases with each achievement.

(2) The test period is defined as the period of time which elapses from starting to finishing the three events. It must not take more than ONE hour. Cadets must do all three events in the same test period.

b. Test Administration.

(1) The CPFT must be administered properly and to standard in order to accurately evaluate a cadet's physical fitness and to be fair to all cadets. (Test results are used for promotion.)

(2) Individual cadets are not authorized to administer the CPFT to themselves for the purpose of meeting the requirement for promotion.

c. Required Equipment.

(1) The OIC at the test site must have a copy of CAPM 50-18 on hand. The supervisor of each event must have the event instructions and standards. Scorers should have a clipboard and an ink pen to record the results on the cadets' scorecards.

(2) Two stopwatches are needed. Both must be able to measure time in both minutes and seconds.

(3) Cadets should wear clothing that is appropriate for PT such as shorts, T-shirts, socks, and running shoes. It is recommended that they do not wear basketball shoes or other types of court shoes. BDUs may be worn, but may be a hindrance in some events.

(4) Each cadet needs a CAPF 66A, *Cadet Physical Fitness Test Scorecard*. The cadet fills in his name, social security number, grade, age, and sex (see example on inside, back cover). Scorers record the raw score for each event and initial the results. If the cadet finds the event difficult to perform, the scorer should write down the reasons and other pertinent information in the comment block. After the entire CPFT has been completed, the event scorer will convert raw scores to point scores using the scoring standards on the back of the scorecard (see example on back cover).

d. Supervision. The CPFT must be properly supervised to ensure that its objectives are met. Proper supervision ensures uniformity in the following:

- Scoring the test.
- Training of supervisors and scorers.
- Preparing the test and controlling performance factors.
- Selecting training supervisors and scorers.
- Securing a location for the events.
- Ensuring weather and environmental conditions do not inhibit performance.
- Safety is the first consideration.

e. Duties of Test Personnel. Testers must be totally familiar with the instructions for each event and trained to administer the tests. Correctly supervising tests and laying out the test are essential duties. The group administering the test must include the following:

- OIC
- Event supervisor, scorers, and a demonstrator for each event.

(1) OIC. The OIC does the following:

- Administers the CPFT.
- Procures all necessary equipment and supplies.
- Arranges and lays out the test area.
- Trains the event supervisors, scorers, and demonstrators.
- Ensures the test is properly administered and the events are explained, demonstrated, and scored according to the test standards in this chapter.
- Rules on questions and scoring discrepancies for their event.

(2) Scorers. Scorers do the following:

- Supervise the performance of the tests.
- Enforce the test standards in this chapter.
- Count the number of correctly performed receptions aloud.
- Record the correct raw score on the cadet's scorecard and initial the scorecard block.
- Perform other duties assigned by the OIC.
- Scorers must be thoroughly trained to maintain uniform scoring standards. They do not participate in the test.

f. Test Procedures. On test day, cadets are assembled in a common area and briefed by the test OIC about the purpose and organization of the test. The OIC then explains the scorecard, scoring standards, and sequence of events.

(1) The instructions printed here in bold type must be read to the cadets: **"You are about to take the cadet physical fitness test, a test that will measure your flexibility, muscular endurance, and cardiorespiratory**

fitness. The results of this test will give you and your commanders an indication of your state of fitness and will act as a guide to determine your physical training needs. Listen closely to the test instructions, and do the best you can on each of the events."

(2) If scorecards are not already issued, they are handed out at this time. The OIC then says the following: **"In the appropriate spaces, print in ink the personal information required on the scorecard."** (If the scorecards have been issued and filled out before they are at the test site, this remark is omitted.)

(3) The OIC pauses briefly to give the cadets time to check the information. He then says the following: **"You are to carry this card with you to each event. Before you begin, hand the card to the scorer. After you complete the event, the scorer will record your raw score, initial the card, and return it to you."** (At this point, the scoring table is explained so everyone understands how raw scores are converted to point scores.) Next, the OIC says the following: **"Each of you will be assigned to a group. Stay with your test group for the entire test. What are your questions about the test at this point?"**

(4) Groups are organized as required and given final instructions including what to do after the final event. The test is then given.

g. Retaking of Events.

(1) Cadets who start an event incorrectly must be stopped by the scorer before they complete 10 sit-ups or 2 sit and reaches, and told what their errors are. They are then sent to the end of the line to await their turn to retake the event.

(2) A cadet who has a problem such as muscle cramps while performing an event may rest if he/she does not assume an illegal position in the process. If he/she continues, he/she receives credit for all correctly done repetitions he/she has performed within the 2-minute period. If he/she does not continue, he/she gets credit for the number of correct repetitions the cadet has performed up to that time. If he/she has not done 10 correct sit-ups, the cadet is sent to the end of the line to retake the event. He/she may not retake the event if he/she has exceeded 10 sit-ups.

h. Test Failures. Cadets who stop to rest in the authorized rest position continue to receive credit for the correct repetitions performed after their rest. Cadets who rest in an unauthorized rest position will have their performance in that event immediately terminated.

i. Retesting. Cadets must achieve an overall score based on their grade. It is the combined score for all three events that determines a passing grade. (See Figure 2 for scores by achievement.) Cadets who fail to achieve an overall passing score must retake their entire CPFT because the result is a cumulative score and not based on one event. In the case of test failure, commanders may allow cadets to retake the test as soon as the cadets and commanders feel they are ready.

j. Test Sequence.

(1) The recommended test sequence is the sit-up, the 1-mile run (or alternate aerobic event), and sit and reach. The order of events can be changed, but it is recommended to do the sit and reach after the aerobic event when the cadet is completely warmed-up.

(2) Cadets should be allowed no less than 10 minutes, but ideally no more than 20 minutes to recover between each event. The OIC determines the time allotted between events, as it will depend on the total number of cadets participating in the CPFT. Under no circumstances is the CPFT valid if a cadet cannot begin and end all three events in one hour or less. The following paragraphs describe the equipment, facilities, personnel, instructions, administration, timing techniques, and scorer's duties for the sit and reach, the sit-up, and the 1-mile run.

Minimum Passing CPFT Scores

Achievement 1	**90**
Achievement 2	**96**
Achievement 3	**111**
Achievement 4	**126**
Achievement 5	**141**
Achievement 6	**156**
Achievement 7	**171**
Achievement 8	**186**
Achievement 9	**201**
Achievement 10	**216**
Achievement 11	**231**
Achievement 12	**246**
Achievement 13	**261**
Achievement 14	**276**
Achievement 15	**291**
Spaatz Examination	**300**

Figure 1

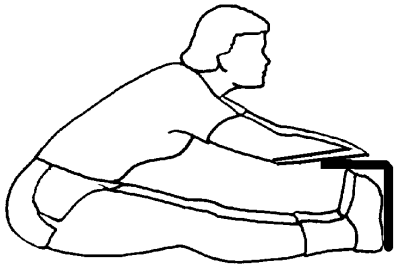
2. Sit and Reach Test--The object of this test is to measure the flexibility of the lower back and hamstring muscles.

a. Equipment Needed: Construction of a simple measuring apparatus is required prior to executing the test. A stair step is needed along with a 12-inch ruler and tape to secure the ruler. The ruler must be taped to the stair step so that the 9-inch mark of the ruler is exactly in line with the vertical plane of the stair step. The lower numbers of the ruler should hang over the edge of the stair step. Additional equipment needed is one clipboard and pen for each scorer. The event supervisor must have the sit and reach instruction list and a scoring key.

b. Facilities: Each station is 6 feet wide and 15 feet deep. Ensure that no more than 15 cadets are tested at a station.

c. Personnel: One event supervisor must be at the test site and one scorer at each station. The event supervisor may not be the event scorer.

d. Instructions for the Sit and Reach Test. The event supervisor must read the following: **"The sit and reach measures the flexibility of the lower back and hamstring muscles. All personnel will remove their shoes and assume the starting position which is a sitting position with legs straight and feet shoulder width apart. Feet must be in contact against the end of the box or stair step, at a 90-degree angle to the ground. Heels will be in contact with the ground at all times. Place your hands on top of each other in a comfortable position and reach out to the ruler. If legs cannot be kept straight then another cadet may hold them flat against the ground with hands only. No other method of bracing or holding the legs is authorized. Reach forward slowly with both hands along the ruler and for at least one second, hold a position at the farthest point along the ruler. Do not bounce forward--bouncing does not measure flexibility and may cause injury. Each time this is done, the scorer records the distance. This sit and reach will be conducted three times. Your final score is the combined score divided by three and is calculated to the nearest half inch. Watch this demonstration."** (The exercise is then demonstrated. See Figure 2 for a list of points to be made during the demonstration.) **"What are your questions?"**



e. Administration. After reading the instructions, the supervisor answers questions. He then moves the groups to their testing stations. The event supervisor cannot be a scorer. At this point, the testing is ready to begin. Successive groups perform the event until all cadets have completed it.

f. Scorers' Duties: The scorer may either sit or kneel next to the stair step where he can best see the ruler. Each scorer decides for himself whether to sit or kneel down when scoring. He may not lay down or stand while scoring. The scorer reads aloud the distance achieved during the fourth attempt of the sit and reach. Scorers tell the tester what they are doing wrong as it occurs during the event. A critique of his performance is given to each cadet after the event. When the cadet completes the event, the scorer records the distance reached, initials the scorecard, and returns it to the cadet.

3. Sit-up Test--The object of this test is to measure the endurance of the abdominal and hip-flexor muscles.

a. Equipment Needed: One stop watch is needed along with one clipboard and pen for each scorer. The event supervisor must have the sit-up instruction list and a scoring key.

b. Facilities: Each station is 6 feet wide and 15 feet deep. Ensure that no more than 15 cadets are tested at a station.

c. Personnel: One event supervisor must be at the test site and one scorer at each station. The event supervisor may not be the event scorer.

d. Instructions for the Sit-up Test. The event supervisor must read the following: **"The sit-up measures the endurance of the abdominal and hip-flexor muscles. One the command 'Get set,' assume the starting position by lying on your back with your knees at a 90-degree angle. Your feet may be together or up to 12 inches apart. Another person will hold your ankles with hands only. No other method of bracing or holding the feet is authorized. The heel is the only part of your foot that must stay in contact with the ground. Your arms must be folded across and against the chest with the hands on the opposite shoulders. Your shoulder blades must touch the ground. On the command 'Go,' begin raising your upper body forward to the vertical position or until your arms touch your knees. The vertical position means that the base of the neck is above the base of your spine. After you have reached or surpassed the vertical position, lower your body until the bottom of your shoulder blades touch the ground. At the end of each repetition, the scorer will state the number of sit-ups you have correctly completed. A repetition will not count if you fail to reach the vertical position, keep your arms against your chest, keep your hands on your shoulders, arch or bow your back, raise your buttocks off the ground to raise your upper body, or let your knees exceed a 90-degree angle. If a repetition does not count, the scorer will repeat the number of your last correctly performed sit-up. You may rest only in the up position. Remember that a repetition is not complete until you have returned to the starting position. As long as you make a continuous effort to sit-up, the event will not be terminated. If you do so, your performance in the event will be terminated. Correct performance is important. You will have two minutes to perform as many sit-ups as you can. Watch this demonstration." (The exercise is then demonstrated.** See Figure 2 for a list of points to be made during the demonstration.) **"What are your questions?"**

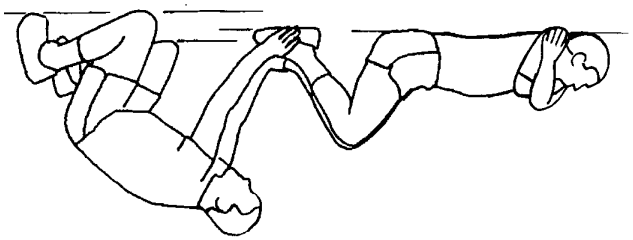
e. Administration: After reading the instructions, the supervisor answers questions. He then moves the groups to their testing stations. The event supervisor cannot be a scorer. At this point, the testing is ready to begin. Successive groups continue to do the event until all cadets have completed it.

f. Timing Techniques: The event supervisor is the timer. He calls out the time remaining every 30 seconds and every second for the last 10 seconds of the 2 minutes. He ends the event after two minutes by the command **"Halt!"**

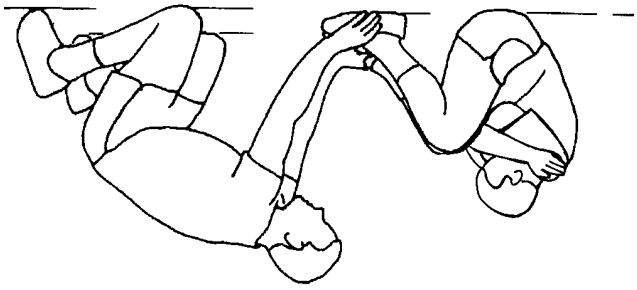
g. Scorers' Duties:

(1) The scorer may either sit or kneel about three feet from the tester's hip. The scorer's head should be about even with the tester's shoulder when the latter is in the vertical (up) position. Each scorer decides for himself whether to sit or kneel down when scoring. He may no lie down or stand while scoring. The scorer counts aloud the number of correctly performed sit-ups and repeats the number of the last correctly performed repetition, if an incorrect one is done. Scorers tell the tester what they are doing wrong as it occurs during the event. A critique of his performance is given to each cadet after the event. When the cadet completes the event, the scorer records the number of correctly performed sit-ups, initials the scorecard, and returns it to the cadet.

(2) When checking for correct body position, the scorer must be sure that at a 90-degree angle is formed by the cadet's upper and lower leg. The angle to be measured is not the one formed by the lower leg and the ground. If, while performing the sit-up event, the angle becomes greater than 90 degrees, the scorer should instruct the tester and the holder to reposition the legs to the proper angle and obtain compliance before allowing the tester's performance to continue. The loss of angle does not terminate the tester's performance in the event. When the cadet comes to the vertical position, the scorer must be sure that the base of the cadet's neck is above the base of the spine or their arms touch the knees. The scorer must ensure that the holder uses only his hands to brace the exerciser's feet.



Starting Position and Down Position
(The Down Position Scores a Repetition)



The Up Position Completes Half the Repetition
(This is the only authorized resting position.)

4. Mile Run: This event tests the cardiorespiratory (aerobic) endurance and the endurance of the leg muscles.

a. Equipment: Two stopwatches for the event supervisor, one clipboard and pen for each scorer, copies of the event's instructions and standards.

b. Facilities: There must be a level area with no more than a 3-degree slope on which a measured course has been marked. An oval-shaped track of known length may be used. If a road course is used, the start, finish, and half-mile (halfway) points must be clearly marked.

c. Personnel: One event supervisor and at least one scorer for every 15 runners are required.

d. Instructions: The event supervisor must read the following: **"The 1-mile run is used to assess your aerobic fitness and your leg muscles' endurance. You must complete the run without any physical help. At the start, all cadets will line up behind the starting line. On the command 'Go,' the clock will start. You will begin running at your own pace. To run the required mile, you must complete** (describe the number of laps, start and finish points, and course layout). **You are being tested on your ability to complete the 1-mile course in the shortest time possible. Although walking is authorized, it is strongly discouraged. If you receive physical help in any way (for example, pulled, pushed, picked up, and/or carried) or leave the designated running course for any reason, you will be disqualified. (It is legal to pace a cadet during the mile run. As long as there is no physical contact with the paced cadet and it does not physically hinder the other cadets taking the test, the practice of running ahead of, along side of, or behind the testing cadet, while serving as a pacer is permitted). Do not stay near the scorers at the finish line as this may interfere with the testing. What are your questions on this event?"**

e. Administration: After reading the instructions, the supervisor answers questions. He then organizes the cadets into groups of no more than 10. The scorer collects the scorecards.

f. Timing Techniques: The event supervisor is the timer. He uses the commands "Get set" and "Go." Two stopwatches are used in case one fails or one may be used at the halfway point. As the cadet nears the finish line, the event supervisor calls off time in minutes and seconds (for example, "Five-thirty, five-thirty-one, five-thirty-two," and so on).

g. Scorers' Duties:

(1) The scorers observe those runners in their groups, monitor their laps (if necessary), and record their times as they cross the finish line. (It is helpful to record the cadets' times on a separate sheet of paper or card. This simplifies the recording of finish times when large groups of cadets are simultaneously tested.) After all runners have completed the run, the scorers determine the point values on the scorecards, and enter their initials in the scorer's blocks. In all cases, when a time falls between two point values, the lower point value is used and recorded. For example, if a female cadet runs the mile in 9 minutes and 59 seconds, the score awarded is 60 points.

(2) At this time, the scorers for the mile run also convert the raw scores for the sit-up and sit and reach

events by using the scoring standards on the backside of the scorecard. They enter those point values on the scorecards and determine the total CPFT score for each cadet before giving the scorecards to the test OIC. After the test scores have been checked, the test OIC signs all scorecards and returns them to the unit commander or designated representative.

5. 400-yard Swim: This event tests the cardiorespiratory (aerobic) fitness.

a. Equipment: Two stopwatches for the event supervisor, one clipboard and pen for each scorer, copies of the event's instructions and standards, and appropriate safety equipment are needed.

b. Facilities: A swimming pool at least 25 yards long and 3 feet deep, or an approved facility, is needed.

c. Personnel: One event supervisor and at least one scorer for every four swimmers is required. One control person to observe potential distressed swimmers and medical personnel (lifeguard) must be on site.

d. Instructions: The event supervisor must read the following: **"The 400-yard Swim is used to assess your level of aerobic fitness. You will begin in the water; no dividing is allowed. At the start, your body must be in contact with the wall of the pool. On the command "Go," the clock will start. You should then begin swimming at your own pace, using any combination of strokes you wish. You must swim** (tell the number) **laps to complete this distance. You must touch the wall of the pool at each end of the pool. Any type of turn is authorized. You will be scored on your ability to complete the swim in a time equal to, or less than, what is listed for your achievement and sex. Walking on the bottom to recuperate is authorized. Swimming goggles, nose plugs, and ear plugs are permitted, but no other equipment is authorized. What are your questions about this event?"**

e. Administration: After reading the instructions, the supervisor answers questions. He then organizes the cadets into groups of no more than four. The scorer collects the scorecards.

f. Timing Techniques: The event supervisor is the timer. He uses the command "Go." Two stopwatches are used in case one fails. As the cadet nears the finish, the event supervisor calls off the time in minutes and seconds (for example, "Five-thirty, five-thirty-one, five-thirty-two," and so on).

g. Scorers' Duties: Scorers must observe the swimmers assigned to them. They must be sure that each swimmer touches the bulkhead at every turn. If the pool length is measured in meters, the scorer must convert the exact distance to yards. To convert meters to yards, multiply the number of meters by 39.37 and divide the product by 36, that is (meters x 39.37)/36 = yards. For example, 400 meters equals 437.4 yards, that is (400 x 39.37)/36 = 437.4 yards.

OFFICIAL

PAUL J. ALBANO, SR., Colonel, CAP
Executive Director

DAVID L. MILLER
Chief, Administration

RICHARD L. ANDERSON, Brigadier General, CAP
National Commander